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AUTHOR Kirk, James J.
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ABSTRACT

During the past three years, the role of the instructional systems designer has taken on greater significance for instructors. This is because many faculty members have been asked to put their entire courses online over the World Wide Web. Instructors are now creating a substantial percentage of the online courses with little or no background in instructional systems design. Consequently, some e-learning experts believe the quality of many online courses will not be as high as it should. The good news is there is a large amount of information on instructional systems design available online for instructors. This document contains an annotated bibliography of more than 160 quality online resources on instructional systems design. The resources are grouped as general resources and according to the five basic steps of instructional design--analyze, design, develop, implement, and evaluate. The sites provide free information on how to perform various instructional systems design tasks as well as several examples of good instructional design. Also included is a glossary of 164 key instructional design terms and definitions. (AEF)

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A Virtual Library For Instructional Systems Designers

Dr. James J. Kirk
Western Carolina University

During the past three years the role of instructional systems designer has taken on greater significance for instructors. This is because many faculty members have been asked to put their entire courses on - line over the World - Wide - Web. In doing so, they have become heavily engaged in revising existing materials and/or creating new courseware from scratch. Instructors are creating a substantial percentage of the on - line courses with little or no background in instructional systems design. Consequently, some e - learning experts believe the quality of many on - line courses will not be as high as it should.

The good news is that a large amount of very helpful information on instructional systems design is available to instructors who have the desire and time to read it. Much of this information is now available on - line. The following resources make up a virtual library of materials on instructional systems design. The resources are grouped as general resources and according to the five basic phases of the instructional design process (i.e., analysis, design, development, implementation, and evaluation). Following the annotated listed of on - line resources is a list ISD terms and definition. The list should prove helpful to individuals with no prior training in instructional systems design.

Instructional Systems Design Resources On The Web

General Resources

A Brief Guide To Instructional Development
http://de.comdis.wisc.edu/users/mchial/Chial/InstDevSite/index.htm
This site offers a concise treatment of ideas useful for developing, modifying or evaluating instruction.

A Brief Overview of the Instructional Design Process
http://www.meted.ucar.edu/resource/soo/isdproc.htm
The purpose of this web page at the National Weather Service Training Center is to review the basic elements in what is known as the Instructional Systems Design (ISD) process.

Competencies and Skills for Instructional Designers by Analysis & Technology, Inc. http://www.coedu.usf.edu/inst_tech/resources/competen.html
A competency model for instructional designers.

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The Encyclopedia of Educational Technology
http://coe.sdsu.edu/eet/
Contains definitions and examples of most terms and concepts related to Instructional Systems Design

Design Activity Forms
http://www.tandl.vt.edu/sumagsID/daf/default.html
This page is part of a course web site written by Dr. Susan G. Magliaro. It contains 33 separate instructional design activities.

Explorations in Learning & Instruction: The Theory Into Practice Database
http://www.gwu.edu/~tip/index.html
This web site is presented as a tool intended to make learning and instructional theory more accessible to educators. The database contains brief summaries of 50 major theories of learning and instruction. These theories can also be accessed by learning domains and concepts.

A Hypertext History Of Instructional Design
http://www.coe.uh.edu/courses/cuin6373/idhistory/index.html
An interactive and well illustrated history of instructional design.

Instructional Design
http://lts.ncsu.edu/guides/instructional_design/index.html
An excellent overview of instructional design provided by Learning Technology Service.

Instructional Design
http://umrtv.cee.umn.edu/UMITV/design.htm
A faculty support site at the University of Minnesota covering such instructional design topics as assessing learners, specifying outcomes and content, modularizing content, designing instructional strategies, developing a syllabus and assessing results/modifying design.

Instructional Design And Workplace Performance
http://cleo.murdoch.edu.au/gen/aset/ajet/ajet9/wi93p12.html
Topics covered in the article include; instructional design in the workplace, instructional design in corporations, instructional design and corporate systems, instructional design and performance technology, standards in everyday performance and instructional design and performance support systems.

Instructional Design Electronic Workbook
http://www.coe.usouthal.edu/workbook/
The Instructional Design Electronic Workbook was developed as a tool to aid those interested in learning basic instructional design principles. The workbook is in Authorware (shocked) and is largely complete. At this point only the pc side is complete. They have purposely kept the graphics and so forth limited to provide for quick download times. You may link to the workbook for any purpose you wish as long as you credit the University of South Alabama Instructional Design & Development program.

Instructional Design Methodologies And Techniques
http://www.seas.gwu.edu/student/sbraxton/ISD/isd_homepage.html
Developed by three Graduate Students in the Computer Science Department at The George Washington University in Washington, DC this web site describes various instructional models and their relationships to learning as well as different approaches used in developing instructional materials.

Instructional Design Models
http://www.cudenver.edu/~mryder/itc_data/idmodels.html
Located at the University of Colorado at Denver in the School of Education this web page contains an extensive list of links to instructional design resources.

Principles of Instructional Design and Adult Learning Instructional Design of Learning Materials
http://www.fbe.unsw.edu.au/learning/instructionaldesign/materials.htm
A page of notes on the ADDIE instructional design model by Notes by Niki Fardouly.

The Instructional Design Process
http://efss.educ.kent.edu/course/57403/default.htm
Excellent interactive instructional design course web site by Albert L. Ingram The site presents a generic ISD model complete with narrative and slide shows.

A Nine - step Systems Approach to Instructional Design
http://infoweb.magi.com/~broadb/sat.html
This web page offers some thoughts on the systems approach of instructional design and presents a nine - step instructional systems design model.

Using Instructional Design Principles To Amplify Learning On The World Wide Web
http://edweb.sdsu.edu/clrit/learningtree/DCD/WWWInstrdesign/WWWInstrDesign.html
This article describes how ISD concepts can be applied to the design and delivery of on - line instruction.

Instructional Design - Robert Gagné, The Conditions Of Learning
http://www.keele.ac.uk/depts/cs/Staff/Homes/Stephen/docs/atid.htm
This paper presents some classic beliefs on how instruction ought to be developed.

Training And Development Manual ISD Manual
http://www.nwlink.com/~donclark/hrd.html
A complete manual written by by Donald Clark on how to systematically design instruction and training.

T471 Instructional Systems Design
http://www.coe.missouri.edu/~cjw/t471/index.html
This is the course web site for Instructional Systems Design, a course by the College of Education at the University of Missouri - Columbia. It contains an excellent collection of slideshows on ISD as well a nice collection of ISD related links.

Analysis Resources

Analysis Tools
http://mime1.marc.gatech.edu/MM_Tools/analysis.html
A collection of tools for creating a multimedia project.

Assessing Your Learning Style: Auditory - Visual - Tactile/Kinesthe
tichttp://www.fln.vcu.edu/Intensive/AVstyle.html
This page is part of a site on Learning Modalities, Styles and Strategies and contains an on - line interactive instrument for assessing learning styles.

Concept Map Model
http://www.inov8.engr.psu.edu/faculty/cmap.htm#reference
This brief tutorial briefly covers such topics as; what is a concept map, purposes of concept mapping, step - by - step procedure of concept mapping, scoring concept maps, theoretical considerations about concept maps, and a concept map reference list.

ERIC/AE Test Locator
http://ericae.net/testcol.htm
The Test Locator is a joint project of the ERIC Clearinghouse on Assessment and Evaluation, the Library and Reference Services Division of the Educational Testing Service, the Buros Institute of Mental Measurements at the University of Nebraska in Lincoln, the Region III Comprehensive Center at GW University, and Pro - Ed test publishers. The site provides information on tests as well as tips on selecting appropriate tests.

Harvey's Lesson About Performance Objectives
http://uwf.edu/coehelp/studentaccounts/hburgess/lessontl.htm
This on - line tutorial covers such topics as lesson objectives, introduction to objectives, history of objectives, alignment of objectives to curriculum, types of objectives, parts of an objective, writing objectives, presenting objectives, and measuring mastery/achievement of objectives.

Job Content Analysis Tool
http://mime1.marc.gatech.edu/MM_Tools/JCAT.html
The Job/Content Analysis tool can help with collecting and organizing information regarding the nature of a specific job or specific content or subject area.

Job Analysis
http://www.frc.mass.edu/hkiess/jobanal.htm
An excellent introductory article on job analysis written by Dr. Harold Kiess at Framingham State College. The article defines job analysis and covers the uses of job analysis information, the legal requirements for a job analysis, sources of job analysis information, job analysis terminology, the job description, one specific technique of job analysis: functional job analysis (FLA), and links to related material.

Needs Assessment Matrix
http://mime1.marc.gatech.edu/mm_tools/NAM.html
The pages provides a useful tool along with inscriptions for matching types of information needed with the appropriate sources of information.

Needs Assessment Tools
http://www.nnlm.nlm.nih.gov/ner/nesl/9410/tol.html
The page offers a brief description of common methods for gathering needs assessment data.

North Carolina Community College System Common Course Library Search
http://www.nccc.cc.nc.us/Tech_Support/common_courses.htm
This page enables users to access descriptions of all approved community college courses in North Carolina.

Performance Analysis And Training Needs Assessment
http://edweb.sdsu.edu/courses/EDTEC540/Syllabus/Buffy/index.html
An overview of various analysis methods by Dr. Allison Rossett, San Diego State University. Includes discussion and examples on audience analysis, front end analysis, goal analysis, subject matter analysis, and task analysis.

Sample Job Analysis Questionnaires: Help Defining Duties Of A New Job
http://www.toolkit.cch.com/tools/jobrsp_m.asp
This tool is provided in the SOHO Guidebook - - Doing Job Analysis

Self - Assessment
http://paws.wcu.edu/Kirk/HRD_Courses/Hrd_610/Assignments610/hrdprofdv_plan_selfassm.html
This page contains links to a large number of on - line interactive self - assessment instruments for students. Descriptions of various vocational interests, work values, abilities & skills, and psychological assessments are provided.

Task Inventory Development Manual
http://www.geocities.com/CapitolHill/Lobby/5715/tskanal.html
A how - to manual on conducting a job task inventory.

Writing Educational Goals and Objectives
http://www.clat.psu.edu/homes/bxb11/Objectives/
Describes goals, objectives. amd different types of objectives. Examples of well written objectives are given. Provides table of Bloom's Taxonomy of Educational Objectives.

Design Resources

Basic Guidelines and Examples For Writing Learning Objectives
http://www.mapnp.org/library/trng_dev/lrn_objs.htm
This page provides a description of learning objectives, gives their purpose, and offers numerous examples of well constructed learning objectives.

Definitions Of Behavioral Verbs
http://www.adprima.com/verbs.htm
This page defines many action verbs used in the writing of learning objectives.

A Guide to Writing Learning Objectives For Cooperative Education
http://www.monmouth.edu/exed/buttons/Preparing/WritingLearningObjectives.html
A brief fact sheet on what a learning objective is , benefits of preparing learning objectives, and how to develop learning objectives.

How To Write Behavioral Objectives
http://www.adprima.com/objectives.htm
Another brief tutorial on writing learning objectives.

Introduction To Objectives
http://www.seas.gwu.edu/student/sbraxton/ISD/objectives_introduction.html
A complete tutorial on writing learning objectives by Sherri Braxton, Kimberly Bronico, and Thelma Looms at the School of Engineering & Applied Science, George Washington University.

Learn2.com
http://www.learn2.com/
This site hosts a variety of free and for fee instructional lessons. Some are excellent examples of good instructional designs.

Specifying The Outcomes Of Student Learning
http://www.rgu.ac.uk/subj/eds/pgcert/specifying/speci1.htm
An excellent and rather thorough tutorial on writing learning objectives.

Writing Learning Objectives
http://www.uvcs.uvic.ca/distance/RES/OBJECT.HTM
The page explains why course writer, faculty, and content specialist should use learning objectives and explains how they should write them.

A Quick Guide To Writing Learning Objectives
http://www.nwlink.com/~donclark/hrd/templates/objectivetool.html
Part of Don Clark's excellent ISD site. This section covers the basics of writing learning objectives.

Understanding Objectives
http://edweb.sdsu.edu/courses/EDTEC540/objectives/objectiveshome.html
Located at San Diego State University, this page contains an excellent interactive lesson on instructional objectives.

Using Bloom's Taxonomy In Developing Learning Objectives
http://www.ed.pdx.edu/cohorts/perspectives/taxonomy.html
This page provides step - by - step instructions on how to use Bloom's Taxonomy to write learning objectives.

Writing Learning Objectives It's A Kick!
http://www.usc.edu/hsc/med - sch/med - ed/object.html
This page covers the "ABCD" method of writing learning objectives. It also contains links to action verbs and examples of objectives.

Writing Learning Outcomes For The Core Curriculum
http://ncgia.ucsb.edu/giscc/units/format/outcomes.html
Another good basic tutorial on writing learner outcomes. The page contains a table of action verbs for the various learning domains.

Writing Learning Outcomes/Objectives
http://www.cait.org/ciaesc/training/instructional/content/lev2les1/
A complete lesson module on writing learning outcomes from CIAESC, a provider of researched based professional staff development products and resources to administrators and educators in adult literacy and GED programs.

Development Resources

The Art Of Lecturing
http://www.maths.adelaide.edu.au/pure/pscott/LTC/lecturing.html
This is a short non - prescriptive resource document to encourage thinking about the important issues in lecturing.

A Brief Summary Of The Best Practices In College Teaching
http://nsccux.sccd.ctc.edu/~eceprog/bstprac.html
Compiled by Tom Drummond at North Seattle Community College, this web page covers a variety of instructional methods appropriate for community college teaching.

Designing Games
http://paws.wcu.edu/KIRK/HRD_Courses/Hrd_620/GameCreation/game_creation_contents.html
This site contains a step - by - step tutorial on designing instructional games.

EDTEC 670 Links To Online Resources
http://edweb.sdsu.edu/courses/edtec670/EDTEC670links.html
This page is part of a course web site for an educational game design course. It contains annotated links to various game resources on the World - Wide - Web.

Facilitating A Game
http://paws.wcu.edu/KIRK/HRD_Courses/Hrd_620/GameFacilitation/game_facilitation_bda.htm
This web page outlines what an instructor should do prior to, during, and after using an instructional game.

Growing Your Own Games
http://paws.wcu.edu/KIRK/HRD_Courses/Hrd_620/growing_games/growing_your_own_games.htm
This is a tutorial on how to create your own instructional games.

Instructional Methods
http://www.sasked.gov.sk.ca/docs/wellness/methods.html
This page contains a diagram showing five approaches to learning and related instructional methods.

Instructional Methods And Materials
http://dcm.bmaweb.net/mrm/teach/01d.htm
In addition to discussing the theory of teaching aids and methods, this brief page also classifies and lists a variety of instructional methods.

Instructional Methods Information
http://www.adprima.com/teachmeth.htm
This page lists the advantages, disadvantages, and uses of 15 commonly used instructional methods

Instructional Strategies For Online Courses
http://illinois.online.uillinois.edu/IONresources/instructionaldesign/instructionalstrategies.html#LEARNING%20CONTRACT
This site describes 10 instructional methods appropriate for on - line teaching. The methods include case study, collaborative learning, discussion, forum, learning contracts, lecture, mentoring, project, self - directed learning, and small group work.

Instructional Strategies And Tactics
http://www.itk.mh.se/~roldal/strategies_tactics/Strategies_and_tactics.html
This brief article covers such topics as what is meant by strategies and tactics in the instructional/learning context, tactics and types of learning, instructivistic versus constructivistic approaches, and instructional events.

Instructional Strategies: Teaching Styles
http://www.dal.ca/~oidt/taguide/InstructionalStrategies.html
This web site contains a tutorial on selected instructional methods including discussion groups, cooporative learning, lectures, laboratories and demonstrations, problem - solving, pyramids, and role plays.

Instructional System Design - Development Phase - Chapter IV
http://www.nwlink.com/~donclark/hrd/sat4.html#development
These web pages are part of Don Clark's excellent ISD Manual. This chapter of the manual covers the development phase of instructional systems design.

Learning Modalities, Styles and Strategies
http://www.fln.vcu.edu/Intensive/LearningStrategies.html
An extensive collection of resources related to learning styles.

Lecturing
http://www - ctl.stanford.edu/teach/handbook/lecture.html
This page is a brief tutorial on preparing and presenting lectures.

Materials On The Case Method
http://www.ecch.cranfield.ac.uk/america/pages/obtain/casemats.html
This page contains links to several articles in PDF format on writing and using case studies in instruction.

Media Selection Matrix
http://www.cde.psu.edu/de/id&D/media_selection_matrix.html
The matrix on this page can help faculty select an appropriate media for a given instructional strategy.

Media Selection Worksheet
http://www.mcli.dist.maricopa.edu/authoring/handbook/cs - media.html
An on - line interactive media selection tool.

Media Typologies
http://home.att.net/~arlington/home.htm
The primary focus of this web site at Boise State University is on three electronic forms of instructional media and delivery; audio, multimedia, and the internet.

Problem - Based Learning At Maricopia Community College
http://www.mcli.dist.maricopa.edu/pbl/materials.html
At this site, Maricopia Community College provides examples of the materials they have developed for problem - based learning.

Role Play
http://paws.wcu.edu/KIRK/HRD_Courses/Hrd_620/roleplay/rppage1.html
A brief introduction to the use of different types of role plays.

Student Portfolios: Classroom Uses
http://www.ed.gov/pubs/OR/ConsumerGuides/classuse.html
This page offers a brief introduction to the use of student portfolios as an instructional method.

Teaching And Learning Resources
http://ublib.buffalo.edu/libraries/projects/tlr/
See the teaching strategies section of this faculty support site at State University of New York At Buffalo. It contains information on selected instructional methods.

A Teaching Handbook For University Faculty
http://www.iupui.edu/~profdev/handbook/home.html
This site contains a complete on - line handbook on college teaching. Some of the chapters include; Interactive Teaching Techniques, Teaching Successful Classroom Discussions, Using Case Studies, Using Instructional Media, Role Playing in the Classroom, Strengths and Weaknesses of the Lecture, Variations of the Lecture and Writing Assignments.

Teaching Instructional Methods Tutorial
http://www.arts.auckland.ac.nz/edu/staff/johnb/165384/Marty/myweb/
This site contains a tutorial on various instructional methods including direct instruction, direct explanation, discovery learning, guided participation, scaffolding, reciprocal teaching, cooperative learning, and mastery learning.

Teaching Methods
http://www.ss.uno.edu/SS/New/TecniqList.html
This is a web page at the University of New Orleans College of Education containing a list of 150 different teaching methods.

Teaching Tips
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/teachtip.htm
Among the many teaching tips offered at this site are several tips on instructional methods.

Teaching With Case Studies
http://www.okstate.edu/ag/agedcm4h/academic/aged5823/case/index.htm
This page contains a slide show on using case studies as an instructional method.

Implementation Resources

ACQWEB
http://acqweb.library.vanderbilt.edu/
This site is for acquisition and collections librarians. It contains a variety of educational publication directories useful to instructional designers.

APA's Code Of Fair Testing Practices In Education
http://www.ericae.net/code.txt
The Code of Fair Testing Practices in Education states instructors' major obligations to test takers.

AskERIC Lesson Plan Collection
http://ericir.syr.edu/Virtual/Lessons/
More than 1100 unique lesson plans which have been written by teachers from around the United States.

Basic Concepts In Item And Test Analysis
http://ericae.net/ft/tamu/Espy.htm
This article provides information on conducting item and test analysis.

Business Education Lesson Plans
http://www.angelfire.com/ks/tonyaskinner/index.html
This site contains a nice collection of business related lesson plans.

The Castle Project Toolkit
http://www.le.ac.uk/castle/tools/upgrade/index.html
At this site you can easily create an on - line multiple - choice test.

Chunking
http://www.sd40.bc.ca/Success/SWebPage01/chunking.html
This web page is part of the Learning for Success 2000 Pathways to Performance web site and provides a definition and various strategies for chunking instructional content.

Classroom Assessment Techniques
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/assess - 1.htm
An article at Honolulu Community College on some guiding principles of classroom assessment.

Classroom Assessment Examples
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/assess - 2.htm
An article at Honolulu Community College containing examples of good classroom assessments.

Connecting Students Lesson Plans
http://www.connectingstudents.com/lesson2.htm
This award winning teacher resource contains many lesson plans suitable for community college classes.

Critical Thinking Across the Curriculum Project
http://www.kcmetro.cc.mo.us/longview/ctac/toc.htm
An index of critical thinking resources prepared by folks at Longview Community College.

The Digital Classroom Primary Sources, Activities, And Training For Educators And Students
http://www.nara.gov/education/classrm.html
Digital Classroom provides materials from the National Archives and methods for teaching with primary sources.

Economics Resources For University And College Teaching
http://ecedweb.unomaha.edu/teach - ec.htm
Lesson plans and curriculum materials from EcEdWeb. Their goal is to provide support for economic education from K - 12 to the college level. Teacher guides, lesson plans, and activities are featured at this site.

EdHelper.com
http://www.edhelper.com/
This site contains approximately 9,547 lesson plans on a variety of subjects along with hundreds of activities.

The Future Of Instructional Materials: From Giotto To Virtual Security To The Writing Process
http://www.jccc.net/~jbacon/future.htm
This very interesting paper provides readers some perspective on how instructional materials are changing.

General Principles Of Motivation
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/motivate.htm
An article at Honolulu Community College on the general concepts related to student motivation.

Good Practice In Test And Question Design
http://www.qmark.com/caa/
This site provides a large amount of information on testing.

Lesson Planning Procedures
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/lesspln1.htm
An article at Honolulu Community College on lesson planning for effective teaching.

Lesson Plans
http://www.teachercreated.com/links/lessons.html
An annotated links page of lesson plan sites from Teachers Forum.

Lesson Plans
http://tech.wisd.org/fpennock/bookmarks/lesson_plans.htm
A small collection of annotated links to some quality lesson plan web sites.

Lesson Plans Across The Curriculum
http://members.aol.com/Donnpages/LessonPlans.html
A large collection of lesson plans on a wide range of subjects.

Lesson Plans And Activities
http://neptune.k12.nj.us/tlcf/LPOthe.htm
This site contains lesson plans and activities suited for high school and college students.

Lesson Plans At The Virtual Library
http://www.wayne.esu1.k12.ne.us/schools/library/lesson.html
An extensive list of links to lesson plan sites and other instructional resources.

Lesson Plan Search.com
http://www.lessonplansearch.com/
The site provides a searchable database of lesson plans.

Lesson Stop
http://www.youthline - usa.com/lessonstop/index.html
Within this site's seven subject matter areas there are over 400 links to web sites organized by topic and grade level, that provide access to thousands of lesson plans. The site also contains articles on writing lesson plans as well as lesson plan templates.

Kathy Schrock's Guide For Educators - Vocational Education
http://school.discovery.com/schrockguide/vocation.html
An excellent guide to vocational and technical educational resources on the web.

Motivating The Unmotivated
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/unmotiva.htm
An article at Honolulu Community College on ways to motivate the unmotivated student.

Open Directory: Business Education Publishers
http://www.dmoz.org/Business/Industries/Publishing/Publishers/Nonfiction/Education/
An annotated links list to more than 100 web sites of education publishers.

Pac Bell's Blue Web'n
http://www.kn.pacbell.com/wired/bluewebn/
This is a database of lessons, tutorials, projects, lists, activities and references, organized by topic and great for any educator or student.

Performance - Based Testing - The Next Major Advance In Assessment
http://www.itpolicy.gsa.gov/mkm/pathways/sources/alpine - 1.htm
A brief discussion on performance - based tests and some suggestions on how to construct them.

ProTeacher
http://www.pro - teacher.com/
This is a tremendous collection of searchable links organized by many different topics. It also has news, weather, lessons, materials, references and tips.

Securing And Maintaing Student Interest
http://www.cals.ncsu.edu/agexed/aee735/ppt3/index.htm
An excellent slideshow on how to motivate students of all ages.

Sequencing And Chunking Of Educational Material
http://tecfa.unige.ch/edu - comp/edu - ws94/contrib/schneider/instruct.fm.html
This is a page from an instructional design manual offering some models for sequencing and chunking instruction.

Sequencing Of Instruction
http://pages.nyu.edu/~tag211/PPThtml/Seq/sld001.htm
A brief slideshow on how to sequence instructional material by Tery Griffin.

Smithsonian Institute
http://www.si.edu/
Organized by topic, this site contains exhibits and information on just about any topic. This is an excellent place to get ideas for projects and reports.

Strategies For Problem - Solving Instruction
http://edweb.sdsu.edu/courses/EDTEC572/chpt8/sld001.htm
A slideshow on how to organize instruction according to a problem - solving teaching structure.

Teachers Hotline.com
http://www.gohotline.com/teachers/lesson.asp
A large thoroughly annotated collection of lesson plans links.

Testing
http://www.bus.indiana.edu/isweb/teachln/testing.htm
This web site contains the following items: Constructing Examinations (A quick tip on constructing exams.), Guidelines for Constructing Test Items (This list of tips was adapted from a handout from the Purdue University College Teaching Workshops), Methods for Evaluating Students (Robert M. Diamond's suggestions are summarized in a list of ways to evaluate students), and References for Evaluation and Assessment (Recommended books and articles which can be purchased online).

Useful Resources, Lesson Plans, And Teaching Materials For Teachers
http://ilc2.doshisha.ac.jp/users/kkitao/online/www/teacher.htm#uk
Lesson plans for various world cultures.

Vocational Education Resources
http://pegasus.cc.ucf.edu/~sorg/vocation.html
An excellent annotated index to a large variety of vocational education resources on the web.

Math Science Lesson Plans
http://scssi.scetv.org/cgi - bin/state/indxsrch?q_f=15
An annotated directory to numerous sites with math and science lesson plans.

Motivating Students
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/motiv.htm
An article at Honolulu Community College on how to get the most from students and encourage them to achieve. Aimed at postsecondary teachers, but contains tips and strategies that can be applied to all grade levels.

Multimedia Links
http://www.coedu.usf.edu/inst_tech/resources/multimedia.html#Img/sound
Links to Multimedia tools, resources, telecommunications, image and sound, and copyright laws.

Sample Lesson Plan Form (A)
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/lesspln2.htm
A very simple lesson plan form that can be printed out and used as a template.

Sample Lesson Plan Form (B)
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/lesspln3.htm
A generic lesson plan form that can be printed out and used as a template.

Quizzes, Tests, And Exams
http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/quizzes.htm
An article at Honolulu Community College providing guidelines for the use of quizzes, tests, and exams in the classroom.

Technology
http://www.teach - nology.com/teachers/lesson_plans/vocational_ed/
A small collection of vocational education lesson plans.

Traditional Literature Lesson Plans
http://falcon.jmu.edu/~ramseyil/tradless.htm
This site contains lesson plans on mythology, fables, tall tales and other forms of traditional literature.

Transfer of Learning Planning Workplace Education Programs
http://www.nald.ca/nls/inpub/transfer/Engish/page01.htm
An excellent presentation on how to promote the transfer of learning.

United States History Lesson Plans
http://www.orangeschools.org/ohs/teachers/TJordan/Pages/lessonsii.html
A large collection of US History lesson plans organized by time periods and topics.

Vocational Education Lesson Plans
http://www.teachervision.com/tv/curriculum/reference/wr_voced_lp.html
A small collection of vocational education lesson plans and resources from the Learning Network.

Vocational Education Resources K12
http://falcon.jmu.edu/~ramseyil/vocational.htm
A large collection of links to vocational education resources of all types.

What's Your Horse: Motivating College Students.
http://ject.lib.muohio.edu/contents/article.php?article=67
A college professor and his daughter discuss what they have learned about motivating young people to learn. They discuss, from the points of view of a professor and an undergraduate student, six concepts that teachers can apply to motivate their students to want to learn their subjects: giving students choices, placing course material in context, arousing students' curiosity, being enthusiastic, giving students a sense of control, and getting to know students personally.

The World Lecture Hall
http://www.utexas.edu/world/lecture/
This page contains links to pages created by faculty worldwide who are using the Web to deliver class materials. There are course syllabi, assignments, lecture notes, exams, class calendars, multimedia, and textbooks.

Evaluation Resources

American Evaluation Association
http://www.eval.org/
The professional organization of persons who work in the evaluation field. See their 'documents', including "Guiding Principles for Evaluators" and "Program Evaluation Standards". Also see their 'lists and links' page.

APA's Code Of Fair Testing Practices In Education
http://www.ericae.net/code.txt
The Code of Fair Testing Practices in Education states the major obligations to test takers of professionals who develop or use educational tests.

Assessment And Evaluation On The Internet
http://ericae.net/intbod.stm
An enormous and well organized list of links to assessment and evaluation resources on the web.

Audience Survey Cookbook
http://www.tou.com/host/audres/ascb.htm
While this site provides information on how to survey audiences, it also contains information on how to do interviews, find people, find interviewers, sampling, questionnaires, and data analysis.

Basic Business Research Methods
http://www.mapnp.org/library/evaluatn/fnl_eval.htm
This document provides guidance toward planning and implementing an evaluation process for for - profit or nonprofit programs - - there are many kinds of evaluations that can be applied to programs, for example, goals - based, process - based, outcomes - based, etc.

Basic Concepts In Item And Test Analysis
http://ericae.net/ft/tamu/Espy.htm
This article provides information on conducting item and test analysis.

A Brief Guide To Questionnaire Development
http://ericae.net/ft/tamu/vpiques3.htm
This booklet is intended to identify some of the more prevalent problems in questionnaire development and to suggest ways of avoiding them

The Castle Project Toolkit
http://www.le.ac.uk/castle/tools/upgrade/index.html
At this site you can easily create an on - line multiple - choice test.

Community - Based Project Evaluation Guide Instructions
http://ag.arizona.edu/fcr/fs/cyfar/evalgde.htm
The Guide, formerly called the State Strengthening Evaluation Guide, has been revised and updated to reflect changes within the CYFAR Program and CYFERnet. The revised edition includes various web sites to assist users in evaluating their community - based programs. Furthermore, a new evaluation template has been added.

Education Program Evaluation
www.ed.gov/offices/OUS/eval
A comprehensive site describing evaluation projects supported by the US Department of Education and related to higher education and vocational education.

Electronic Resources For Evaluators
http://it.usu.edu/itrs/AEA/index.html
Compiled by Catherine Callow Elwell this page contains an extensive list of links related to evaluation.

Essentials Of Survey Research And Analysis: A Workbook For Community Researchers
http://www.tfn.net/%7Epolland/qbook.html
A brief tutorial on the fundamentals of survey research.

Evaluating Instruction
http://id - www.ucsb.edu/IC/Resources/Teaching/eval.html
This web page contains a variety of ideas on collecting evaluation data.

Evaluating Training: There Is No "Cookbook" Approach
http://home.att.net/~nickols/evaluate.htm
This is a version of an article prepared for the American Society For Training And Development's Evaluation Tool Kit edited by Karen Medsker and Don Roberts.

Evaluation Guidebook
http://www.urban.org/crime/evalguide.html
Provided by the Urban Institute, this web site contains an overview of the evaluation process, including a brief section on evaluation methods. Other topics included in the guide are using evaluation information, evaluation design, and logic models.

Evaluation Models
http://de.comdis.wisc.edu/users/mchial/Chial/InstDevSite/evalmodels.htm
This site presents a selection of evaluation models.

Evaluation Of The Effectiveness Of Training Programs
http://www.research.umbc.edu/~hodell/602rp7.htm
An article by Debra M. Farmer explaining how to evaluate instructional programs according to Donald Kirkpatrick's four levels of evaluation. The page contains a useful evaluation planning table.

Evaluation Of Training And Development Programs: A Review Of The Literature
http://cleo.murdoch.edu.au/gen/aset/ajet/ajet5/su89p89.html
Appearing in the Australian Journal of Educational Technology, this paper outlines some of the findings of a research project on evaluation that involved a review of the Training and Development Journal literature for the period 1970 - 1986. An annotated bibliography is produced by the author as part of the project.

Evaluation Primer: An Overview Of Education Evaluation
http://www.ed.gov/offices/OUS/PES/primer1.html
This material is excerpted from Understanding Evaluation: The Way to Better Prevention Programs, a publication written by Lana Muraskin. This material is in the public domain and may be copied.

Designing And Writing Multiple - Choice Questions
http://www.uct.ac.za/projects/cbe/mcqman/mcqman01.html
An excellent handbook with many supporting sources on writing multiple - choice questions.

Foundations Of Evaluation And Advanced Evaluation
http://eval.cgu.edu/
This is a course web site for the noted evaluation expert, Michael Scriven. The site contains a variety of information about evaluation issues. See especially the Evaluation Index for the list of topics.

Good Practice In Test And Question Design
http://www.qmark.com/caa/
This site provides a amount of information on test creation.

HyperStat Online
http://davidmlane.com/hyperstat/
This site contains an on - line introductory level statistics book.

A Model For Program Evaluation
http://www.teachermentors.com/RSOD%20Site/OtherInfo/ProgrEval.html
On this page Barry Sweeny presents a program evaluation model that he has developed and used over the past 20 years. The original ideas for this model are loosely derived from the research and work of Tom Gusky and Donald Kirkpatrick. The article contains a useful checksheet for conducting an evaluation study.

Performance - Based Testing - The Next Major Advance in Assessment
http://www.itpolicy.gsa.gov/mkm/pathways/sources/alpine - 1.htm
A brief discussion on performance - based tests and some suggestions on how to construct them.

Planning And Constructing Performance - based Evaluations
http://www.ed.uiuc.edu/sped/tri/evalwkshp.htm#Logic%20Models
This page contains the transcript of a workshop on planning and constructing performance - based evaluations. The immediate objective of this workshop was to give people a process to describe a program in a logical fashion so that they can communicate to others not only what they're trying to accomplish, but also how they're going to accomplish it.

Research Methods Knowledge Base
http://trochim.human.cornell.edu/kb/index.htm
The Research Methods Knowledge Base is a comprehensive web - based textbook that addresses all of the topics in a typical introductory course in research including evaluation research methods.

Research Methods Tutorials
http://trochim.human.cornell.edu/tutorial/TUTORIAL.HTM
This page consists of tutorial Web projects put together by the students in a program evaluation course at Cornell University. Topics include foundations, sampling and external validity, research design and internal validity, data analysis, and conclusion validity.

Resources For Survey Researchers
http://www.surveysystem.com/resource.htm
This is a web page at Creative Research Systems containing resources for survey researchers.

StatSoft
http://www.statsoft.com/textbook/stathome.html
This site consists of an online statistics textbook with glossary.

Study Design And Analysis
http://www.windsor.igs.net/~nhodgins/design_and_analysis.html
This site contains a brief overview of different research design methods.

Survey Research Tools
http://international.ncs.com/ncscorp/research/surveytools.htm
This page is designed to help individuals be more effective researchers. It provides tools for understanding survey data, as well as, additional resources related to survey research.

Testing
http://www.bus.indiana.edu/isweb/teachln/testing.htm
This web site contains the following items: Constructing Examinations (A quick tip on constructing exams.), Guidelines for Constructing Test Items (This list of tips was adapted from a handout from the Purdue University College Teaching Workshops), Methods for Evaluating Students (Robert M. Diamond's suggestions are summarized in a list of ways to evaluate students), and References for Evaluation and Assessment: (Recommended books and articles which can be purchased online).

US Agency For International Development (USAID Evaluation Publications
http://www.usaid.gov/pubs/usaid_eval/#toc
This site has a number of text and pdf files, on qualitative methods, including Conducting Key Informant Interviews, Using Direct Observation Techniques, Conducting Focus Group Interviews. These files are in their Performance Monitoring and Evaluation TIPS section.

Web Pages That Perform Statistical Calculations!
http://members.aol.com/johnp71/javastat.html
As the title implies, this page contains a large number of statistical calculators.

Zoomerang
http://www.zoomerang.com/
A free site that allows users to post their own course evaluations/surveys on the web. The site tracks responses and displays results in a statistical format.

Instructional Systems Design Terms

Achievement - A measurement of what a person knows or can do after instruction.

Action Maze - A scenario or case study in which each choice by a learner leads to a new scenario.

Affective Learning Goals - An attitude, value, or belief that is expected to change as a result of instruction.

Affective Objectives - Objectives that are concerned with attitudes, feelings, and values.

Analysis - A type of higher order learning during which learners are expected to break concepts down into their component parts and/or to discern their unique characteristics.

Analysis - Transforming individual data responses into summary statistics (e.g., means, range)

Application - A mid - level skill in the cognitive learning domain. Learners are expected to cognitively use abstract forms in specific concrete situations. Abstractions may be in the form of general ideas, principles, rules, or procedures.

Articulation - Next to the highest skill level in the psychomotor domain. The skill is developed to the degree that learners can modify movement patterns to fit special requirements or to meet a problem situation.

Assessment - The measurement of a selected variable or phenomena.

Assigned Readings - A series of articles, chapters, and/or web pages are required to be read in a given sequence.

Association - The degree to which one measure related to other measure.

Attitude Surveys - Often a professional developed survey instrument that measures participants' beliefs or values related to a particular topic (e.g., work values, racial attitudes).

Audience Analysis - A careful examination of the characteristics of the intended learners. Can include looking at physical characteristics, mental characteristics, current pre - entry knowledge, skills, attitudes, motivations, specific interests, and learning styles needed to be successful in the course or lesson being designed.

Audience - The group of learners who are expected to achieve the stated learning goals and objectives.

Audio - Visual Presentation - Information is presented in the form of a movie slide show.

Behavioral Objectives - A highly specific statement of what the learners will be able to do after completing the instruction. Behavioral objective statements include four components; (1)the audience (who is to learn the behavior), (2)a behavior (that which the learner is to know, do, or choose), (3)conditions (the circumstances under which the behavior will be performed,) and (4)degree (the speed or accuracy level at which the behavior will be performed).

Behavior - That which learners will be able to do as a result of the instruction.

Behavior - The third level in Kirkpatrick's evaluation model. Refers to learners transferring what they learned in the classroom to a job situation.

Braining Storming - A group of learners meet to generate as many ideas as possible on a given topic.

Buzz Groups - A large group of learners is divided into smaller groups to briefly discuss a problem or issue.

Case Study - An account of a problem situation.

Central Tendency Error - All observations or results are view and interpreted toward middle of a scale.

Central Tendency - The degree to which evaluation data clusters together.

Characterization - The highest level of learning in the affective domain. The new value has been fully integrated into learners' value hierarchy. The learners' behavior is now characterized by their new value system.

Chunking - Subdividing subject matter content into smaller parts for instructional purposes.

Cluster Analysis - Procedure often used to break down a verbal information goal (i.e. lowest level of cognitive learning). The instructional designer attempts to identify the various categories (i.e., clusters) of information the goal implies.

Cognitive Learning Goals - A change in information, knowledge, insight, or intellectual skills that is expected as a result of instruction.

Cognitive Objectives - Outcomes which are related to the acquisition and application of knowledge and understanding.

Comprehension - Next to the lowest level of cognitive learning. Learners are expected to communicate an idea, thing, or event in a new or different form, see relationships among things, interpret an idea in relation to their own experiences, or project the effect of things.

Concept Maps - Visual representations of ideas.

Condition - The circumstances under which learners will demonstrate their mastery of a specified behavior.

Correlation - The degree to which one measure is associated with another measure.

Course Guide - A document, either hard copy or electronic, providing instructors directions, assistance, course materials, and additional resources for teaching a course.

Criterion - Referenced Test - A test of a learner's accomplishment in relation to a standard; often expressed as "performing according to standard" or "not performing according to standard."

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Debate - A structured form of argumentation in which a pro and a con side speak for or against a proposed change.

Degree - The standard learners are expected to measure up to when performing the behavior. Often relates to speed, accuracy, or quality of the behavior being performed.

Demonstration - The instructor shows with the aid of props and/or equipment how something works or how something is done.

Descriptive Research - Use to describe something (e.g., research to determine what students already know about the subject - matter of a course on the first day of class). Such information is usually represented with descriptive statistics (i.e., mean score, standard deviation).

Development Phase - The point in the instructional systems design process at which instructional strategies and methods are selected for accomplishing the instructional objectives.

Dispersion - The degree to which evaluation data spreads out.

Drill & Practice - The learner performs the same task or set of tasks over and over again until the task(s) have been mastered. Can involve the use of flash cards or equipment.

Element - Parts of a system. Analysis is an element in the Generic Instructional Design model.

Evaluate - The highest level of cognitive learning. Learners are expected to make judgments about things based on either external or internal conditions or criteria, rate ideas, conditions, or objects, and to accept or reject things based on standards.

Evaluation Model - A recipe or set of procedures to follow when conducting an evaluation study (e.g., Donald Kirkpatrick's Four Level Evaluation Model).

Evaluation Questions - Information that is sought by members of an evaluation audience. The information is often used to make informed decisions about a course.

Evaluation - To determine the value of an object.

Evaluator Bias Error - All observations or results are view and interpreted in such a way as to create a self - fulfilling prophecy (i.e., the evaluator only sees what she/he expects to see).

Ex Post Facto Research - Use to show relationships between variables (e.g., research to determine if a relationship exists between a safety course and the number of accidents on the job). Correlation statistics are used to represent the direction (i.e., positive or negative) and strength of the association.

Examination Of Work Samples - A situation in which a trained observer uses a check list containing specific product standards to assess the degree a finished outcome measures up to the stated criteria. The procedure can also be used to assess class projects that involve a end physical product.

Experimental Research - Use to show causality. The design controls for common threats to internal validity such as time, pre - testing, subject selection, and subject mortality. Experimental research designs are often not possible in community college settings.

External Evaluation - An evaluation conducted by persons outside the organization in which the evaluation objects resides (e.g., accreditation studies).

Fair - An event in which learners competitively display exhibits and/or projects to the public.

Field Trip - A trip to a location for learning purposes. The trip can be real or virtual.

Formal Evaluation - A systematic and deliberate attempt to determine the value of an object.

Formative Evaluation - An evaluation of the instructional design process, activities, and components while the course is being designed. The process is similar to quality checks being made up and down an automotive assembly line.

Game - A structured and competitive activity in which individuals try to reach a goal and become the winner.

Goal Analysis Methods - Procedures used to analyze (break down) an instructional goal. Common goal analysis methods include information analysis, procedural analysis, hierarchical analysis.

Goal Analysis - Breaking down of an instructional goal into the tasks required to accomplish the goal.

Goals - A general statement of what learners will be able to do after instruction.

Group Discussion - As a whole or in small groups, learners give their views on various problems or issues.

Group Process Activity - Delphi and nominal group technique are examples of this type of group activity intended to reach group consensus.

Hands - On Tasks - An activity in which learners use both their hands and minds. Can involve making, repairing, or experimenting with something.

Hawthorn Effect - Behavior changes due to what learners believe is expected of them, not because of the instruction.

Hierarchical Analysis - Procedure commonly used to break down an intellectual skill. The instructional designer breaks down the intellectual goal into the things a learner must know or be able to do to accomplish the goal. The result is a set of sub - goals or sub - skills. In turn, the sub - goals or skills are further broken down into the what learners must know or do to accomplish the sub - goals or skills. Continuous analysis of sub - goals and skills can continue downward to the degree an instructional designer deems necessary.

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Higher Order Instructional Goals - Goals that reside at the higher skill levels in the cognitive, psychomotor, and affective domains (i.e., synthesis, evaluation, articulation, naturalization, organization, characterization by a value or value complex).

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Horn Effect - A single negative measurement or observation of an individual negatively affects all other observations.

Imitation - Lowest level skill in the psychomotor learning domain. Learners are expected to repeat an act that has been demonstrated or explained. The process includes trial and error until learners demonstrate an appropriate response.

In - Basket Exercises - A mini simulation in which learners are provided an in - basket containing memos, letters, and other documents for which they must take appropriate actions.

Informal Evaluation - A casual, unsystematic, or unofficial attempt to determine the value of an object.

Inputs - Elements that enter and interact with other elements inside a system.

Instruction Design Systems (ISD) - A systematic process of translating general principles of learning and instruction into plans for instructional materials and learning.

Instructional Delivery System - The overall or global means by which the instruction will be delivered to learners (e.g., traditional classroom instruction).

Instructional Materials - Any media used by learners to acquire new knowledge, concepts, skills, and/or attitudes.

Instructional Methods - The specific activities in which learners will be engaged (e.g., listening to lectures).

Instructional Strategies - The principle or global means by which learning will take place (e.g., direct instruction with small group discussions).

Instruction - An inclusive term for all events that effect learning. It includes planning, implementation, and evaluation of various learning principles and activities.

Interactive Instructional Media - Learners are presented information via CD Rom or the web to which they must respond. The next part of the instruction is determined by how learners responded.

Internal Evaluation - An evaluation conducted by persons within the organization in which the evaluation objects resides.

Interpreting - Adding meaning to evaluation data.

Interview Schedules - A carefully sequenced set of questions pertaining to a respondent's backgrounds, behaviors, and opinions of a particular population. Similar to a questionnaire but given verbally. While more time consuming than a questionnaire, an interview permits the collection of additional information in the form of voice tones, facial expressions, and body language.

Job Analysis - Breaking down the responsibilities of a job into its discrete work tasks.

Knowledge - Lowest order of cognitive learning. Learners are expected to remember an idea, phenomenon, or a fact in somewhat the same form in which they learned it.

Knowledge - The second level in Kirkpatrick's evaluation model. Refers to the information, skills, insights, and attitudes learned during a course.

Lab - A set of highly structured activities (e.g., physical experiments, foreign language exercises) which students perform in a special room containing specialized equipment and materials.

Learning Domains - Three types of learning - - cognitive, psychomotor, and affective. The cognitive domain includes intellectual skills, whereas the psychomotor domain includes muscular or physical manipulation skills. The affective domain includes the acquisition of beliefs, values, or attitudes.

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Learning Outcomes Assessment Methods - Measurement processes used to determine if learners met outcome standards for the the instructional goals.

Learning System - A set of procedures, actions, or activities used by an instructor or self - directed learners to facilitate learning. Such systems may be heavily influenced by an instructor's preferred teaching style and educational philosophy and learner's motivation and personal learning styles. It is the output (the outcome or end product) of the Instructional Systems Design process.

Learning Theories - Beliefs that individuals hold about learning, teaching, and instruction. Some of the more accepted theories include Constructivism, Behaviorism, Piaget's Developmental Theory, Neuroscience Brain - Based Learning, Learning Styles, Multiple Intelligences, Right Brain/Left Brain Thinking, Communities of Practice Control Theory, Observational Learning, Vygotsky and Social Cognition Problem - Based Learning.

Learning - While defined differently by various learning theorists, it is often considered to be the acquisition of new information, skills, insights, physical behaviors, and/or attitudes.

Lecture - The instructor speaks on subject - matter content while students take notes.

Lesson Guide - Similar to a lesson plan but used by students. It may contain learning objectives, lesson outline, student assignments, and a list of terms.

Lesson Plan - A document used by instructors to conduct a lesson. Often includes learning objectives, lesson timeline, learning activities, and a list of needed resources.

Lock - Step Instruction - All of the learners in a group learn the same material at the same rate.

Low Ropes Initiatives - Outdoor group challenges or inactive in which learners remain close to the ground. Often used to teach team work, problem - solving skills, and group decision - making skills.

Lower Order Instructional Goal - Goals that resides at the lower skill levels in the cognitive, psychomotor, and affective domains (i.e., knowledge, comprehension, initiation, manipulation, receiving, responding).

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LWBAT - "Learners will be able to." Phrase often used in cognitive and psychomotor learning objectives.

LWCT - "Learners will choose to." Phrase used in affective objectives.

Manipulation - The next to the lowest level of learning in the psychomotor domain. Learner are expected to practice a particular skill or sequence until it becomes habitual and the action can be performed with some (not complete) confidence and proficiency.

Media - The different visual and audio forms of instructional materials (e.g., printed case studies).

Models - Models identify the ingredients (inputs) needed to produce the desired instructional result (outputs). Models provide step - by - step directions as to when and what must be done with the required inputs to achieve each output.

Models - Three dimensional representations of objects (e.g., skeleton, solar system).

Motivation - A felt need on the part of a learner to behave in a particular manner or to take certain actions.

Naturalization - The highest skill level in the psychomotor learning domain. Learners can now perform an act without thinking. Learner begin to experiment, creating new motor acts or ways of manipulating materials.

Needs Analysis - Identifying what intended learners must know in order to function in a given occupation or job situation.

Norm - Referenced Test - A test of a learner's accomplishment rank in reference to a selected group of people, often expressed as a percentile.

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Object - That which is being evaluated (e.g., course, lesson)

Observation Schedules - Typically a form on which an observer records the frequency, times, and other information regarding a subject's performance of a listed behavior.

Organization - Next to the highest level of affective learning. Learners partially integrate new values into their value systems. They see how the value relate to those already held or to new ones that are coming to be held. Various value conflicts must be resolved.

Outputs - The products or outcomes of a system. A learning system is the output of the Instructional Systems Design process.

Overrating Error - Observations and results are viewed and interpreted with a favorable bias.

Panel Discussion - A small group of persons highly knowledgeable about certain aspects of a topic make small presentations and entertain questions from the audience.

Paper And Pencil Tests - A set of questions (i.e., multiple - choice, short answer) designed to measure a person's knowledge, insights, and cognitive skills relative to a particular subject - matter area.

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Performance Standards - Scores that must be achieved to declare an instructional goal has been accomplished.

Performance Test - A structured situation in which a subject performs selected tasks while a trained observer completes an observation sheet (e.g., the driving portion of a state driver license exam). Performance test are used in evaluation to determine if a learner can perform certain psychomotor skills.

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Phase - A step or stage in a process. Assessment, Design, Development, Implementation, and Evaluation are phases in the Instructional Systems Design process.

Plans - Actions an instructor intends to take to bring about the desired learning.

Pop Quiz - A surprise quiz that is given, graded, and discussed in class.

Post Hoc Fallacy - The evaluator improperly associates new learning with the instruction.

Poster Session - Learners prepare and attach to the wall, posters on selected topics. Others come by and discuss the poster contents with the learners.

Precision - Mid - level psychomotor domain learning. Learners have attained the skill. Proficiency is indicated by a quick, smooth, accurate performance of the act with a minimum amount of energy.

Principles - Beliefs or practices that are commonly agreed upon by experts in a given discipline. An example is the belief that "learners learn best by doing."

Procedural analysis - Procedure used to break down a psychomotor goal. The goal is broken down into the sequential steps or behaviors learners must do to accomplish an instructional goal. The resulting breakdown is a set of sub - goals or sub - steps. These sub - goals or sub - steps are further broken down into the sequential subordinate goals and steps that the learn would need to do to accomplish each subordinate goal or step. This process can continue downward to the level the instructional designer deems necessary.

Process - A set of procedures and/or activities undertaken to achieve a desired outcome.

Programmed Instruction - A text that provides continuous feedback to the learner.

Psychomotor Learning Goals - A change in both mental (e.g., information, knowledge, insight, or intellectual skills) and physical behavior (i.e., muscular movements) that is expected to change as a result of instruction.

Psychomotor Objectives - Learning outcomes that deal with the development of manipulative or physical skills.

Question And Answer Sessions - Learners and/or the instructor pose(s) and answer(s) questions.

Questionnaires - Usually a paper and pencil survey instrument containing questions regarding the backgrounds, behaviors, and opinions of a particular population. Often used in evaluation research to assess the reactions of learners.

Reaction - The lowest level in Kirkpatrick's evaluation model Refers to student's opinions about various aspects of a course.

Receiving - The lowest level of learning in the affective domain. Learners are willing to receive or to attend to particular phenomena or stimuli.

Reliability - Instruments that repeatable produce the same results.

Research - Scientific collection and analysis of data, including evaluation data.

Responding - Next to the lowest level of learning in the affective domain. Learners actively seek out and engage in the activity.

Results - The highest level in Kirkpatrick's evaluation model Refers to the financial impact the transfer of new learning is having on an organization.

Role Modeling - The instructor models a particular behavior that she/he wishes to teach students.

Role Plays - A skit in which learners are asked to act the parts of other people. They can structured or non - structured.

Self - Paced Instruction - Learners proceed through various learning activities at their own desired speed.

Sequencing - Placing subject matter content in an appropriate order (i.e., timeline) for instructional purposes.

Simulations - A re - creation of life or work situations that include key elements of real thing. Includes but goes beyond mere role play.

SMART Goals - Criteria used for judging the adequacy of an instructional goal (i.e., specific, measurable, attainable, relevant, trackable)

Subordinate Analysis - The process of continuing to break down instructional goals beyond the sub - goal stage. The process continues downward to the point at which it is known or assumed that the audience already knows the requisite information, can perform the requisite tasks, or possesses the requisite attitudes to accomplish the subordinate goal.

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Summative Evaluation - The evaluation of the end product. Similar to test driving an automobile after it rolls off the assembly line.

Synthesis - Next to the highest order cognitive skill. Learners are expected to think creatively, to make or create new or original things, or to organize things in new ways.

System - A highly organized and carefully followed method of achieving a consistent and predictable result. Systems have inputs, elements, processes and outputs.

Task Analysis - Breaking down a task into the requisite sub - tasks required to accomplish the larger task.

Taxonomy of Learning Objectives - This classic work identifies various cognitive, psychomotor, and attitude (affective) learning outcomes.

Teaching - The putting of a learning system into practice by performing or facilitating instructional activities specified in the instructional design plan.

Transfer Of Learning - Taking knowledge, skills, concepts, and/or attitudes learned in a classroom and applying them in a different setting (e.g., work place, community agency, home).

Tutorial - Learners follow step - by - step instructions on how to do something. Can appear in various media forms (e.g., traditional print, electronic print, interactive CD Rom). Typically includes practice exercises.

Underrater Error - All observations or results are view and interpreted with an unfavorable bias.

Validating Instruction - A formative evaluation activity in which an instructional designer gets feedback on an instructional plan from key stakeholders.

Validity - Instruments that accurately access that which they portent to measure.

Valuing - A mid - level form of affective learning. Learners now value a particular thing, action, or belief. Learners are now motivated by a personal commitment to the underlying value guiding the behavior, not by the desire to comply or obey.

Workbooks - Books that contain questions and other activities to be completed by learners.

Worksheets - Same as workbooks but appear in page rather than book form.